

REMARKS

[0003] Applicant respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1-24 are presently pending. Claims amended herein are 1, 7, 12, 15, and 20. Claims withdrawn or cancelled herein are 5, 6, 9, 11, 13, 23, and 24. New claims added herein are none.

Statement of Substance of Interview

[0004] The Examiner graciously spoke with me—the undersigned representative for the Applicant—on June 20, 2007. Applicant greatly appreciates the Examiner's willingness to talk. Such willingness is invaluable to both of us in our common goal of an expedited prosecution of this patent application.

[0005] During the interview, we discussed § 101 rejections. Without conceding the propriety of the rejections and in the interest of expediting prosecution, I also proposed several possible clarifying amendments.

[0006] I understood the Examiner to tentatively agree that the independent claims would be patentable over the cited art if amended as discussed during the interview.

[0007] Applicant herein amends the claims in the manner discussed during the interview. Accordingly, Applicant submits that the pending claims are allowable over the cited art of record for at least the reasons discussed during the interview.

Formal Request for an Interview

[0008] If the Examiner's reply to this communication is anything other than allowance of all pending claims, then I formally request an interview with the Examiner. I encourage the Examiner to call me—the undersigned representative for the Applicant—so that we can talk about this matter so as to resolve any outstanding issues quickly and efficiently over the phone.

[0009] Please contact me or my assistant to schedule a date and time for a telephone interview that is most convenient for both of us. While email works great for us, I welcome your call to either of us as well. Our contact information may be found on the last page of this response.

Claim Amendments

[0010] Without conceding the propriety of the rejections herein and in the interest of expediting prosecution, Applicant amends claims herein. Applicant amends claims to clarify claimed features in accordance with our telephone discussion with the examiner. Such amendments are made to expedite prosecution and quickly identify allowable subject matter. Such amendments are merely intended to clarify the claimed features, and should not be construed as further limiting the claimed invention in response to cited prior art.

Formal Matters

Claims

[0011] The Examiner objects to claims 6, 11, 13, and 24 for being dependent on a rejected base claim, but otherwise being allowable if written to include all limitations of the base claims and any intervening claims and to overcome § 101 rejections. Herein, Applicant incorporates these claims and any intervening claims into their respective base claims and amends the base claims, as shown above, to correct the informalities noted by the Examiner.

Substantive Matters

Claim Rejections under § 101

[0012] Claims 1-24 are rejected under 35 U.S.C. § 101. In light of the amendments presented herein, Applicant respectfully submits that these claims comply with the patentability requirements of § 101 and that the § 101 rejections should be withdrawn. The Applicant further asserts that these claims are allowable. Accordingly, Applicant asks the Examiner to withdraw these rejections.

[0013] As amended the claims include the practical utility of returning the value at the end of the loop as described in the Specification on pages 5 and 9, for example. To do so would provide the practical application of Montgomery multiplication to at least cryptographic functions. Also, Montgomery multiplication has the practical application of speeding processing by reducing loop iterations as set forth in the Specification on at least page 15.

[0014] During the above mentioned Examiner's Interview, the Examiner indicated that the claims additionally faced rejection under 35 U.S.C. § 101 according to *Gottschalk v. Benson*, 409 U.S. 63 (1972).

[0015] The claims at issue in *Gottschalk* were ultimately rejected not because they included mathematical algorithms, but because "[t]he claims were not limited to any particular art or technology, to any particular apparatus or machinery, or to any particular end use." *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972). The independent claims presented above contrast with the claims at issue in *Gottschalk* for at least the following reasons:

[0016] First, the claims above are directed to specifically: "a computer system," claim 1; "a processing system," claim 7; "a computer readable medium," claim 12; "a method for computing Montgomery multiplication, whereby Montgomery multiplication is performed within a cryptographic function," claim 15; and "a method whereby Montgomery multiplication is performed within a cryptographic function," claim 20. Whereas the claims ultimately rejected in *Gottschalk* were to methods that were not limited to a particular technology, apparatus, or end use, Applicant submits that claims 1, 7, and 12 are directed to physical machines producing useful, concrete, and tangible results—not disembodied mathematical concepts. *See In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994) (en banc).

[0017] Second, Applicant submits that claims 15 and 20, directed to methods, are limited to a particular technology, cryptography, and therefore the instant claims would not "wholly pre-empt the mathematical formula." Because of at least this recitation, the

instant claims are substantively different than the claims in *Gottschalk*. The instant claims would not “in practical effect . . . be a patent on the algorithm itself.” See *Gottschalk* 409 U.S. at 71.

[0018] Finally, Applicant submits that the instant claims represent transforming data through a series of mathematical calculations into a final result. According to *State Street Bank*, 149 F.3d 1368, 1373 (Fed. Cir. 1998), such a final result constitutes a practical application of Montgomery multiplication because it produces a useful, concrete, and tangible result. For at least this additional reason, these claims meet the requirement of a practical application of a judicial exception for mathematical algorithms.

[0019] If the Examiner maintains the rejection of these claims, then the Applicant requests additional guidance as to what is necessary to overcome the rejection.

Claim Rejections under §§ 102 and/or 103

[0020] Claims 1-5, 7-10, 12, and 14-23 are rejected under 35 U.S.C. § 102 and/or § 103. In light of the amendments presented herein and the decisions/agreements reached during the above-discussed Examiner interview, Applicant submits that these rejections are moot. Accordingly, Applicant asks the Examiner to withdraw these rejections.

Dependent Claims

[0021] In addition to its own merits, each dependent claim is allowable for the same reasons that its base claim is allowable. Applicant requests that the Examiner withdraw the rejection of each dependent claim where its base claim is allowable.

Conclusion

[0022] All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the **Examiner is urged to contact me before issuing a subsequent Action.** Please call/email me or my assistant at your convenience.

Respectfully Submitted,

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